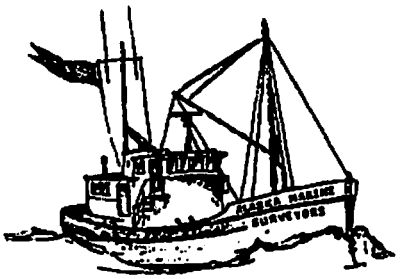

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February 18, 2013

[redacted]
US Fish & Wildlife Service
Alaskan Peninsula/Becharof NWR
4 Bear Road, PO Box 277
King Salmon, AK 99613

Re: R/V Arlluk – Swamping Damage – DOL: 2/7/13
Assured: US Fish & Wildlife Service
Preliminary Damage Report DV2709
"Hull & Machinery"

Dear [redacted]

Acting at the request of [redacted], representing vessel owners, via the US Fish & Wildlife Service, the undersigned marine surveyor did, on February 13, 14 and 16, 2013, attend the R/V Arlluk, drydocked at Fullers Boat Yard in Kodiak, Alaska.

The purpose of attending was to determine the full extent of damage to the hull & machinery, estimate the cost to retrofit the vessel to pre-damaged condition, and render an opinion as to the potential salvage value, once current environmental clean-up underway is completed, with the main engines and marine gears flushed and made in operable condition as best possible.

Attending
Lon White – contractor representative – environmental cleanup
Cory Pedersen – contractor/mechanic – flush & run marine engines/marine gear

Vessel Particulars

Name of Vessel:	Arlluk *ex: Caroline*
Official No.:	1181401
IMO or Other No.:	none
Hull ID No.:	KAW063024873

Hailing Port:	King Salmon, Alaska
Owners:	US Fish & Wildlife Service Alaskan Peninsula/Becharof NWR 4 Bear Road, PO Box 277 King Salmon, AK 99613
Year Built:	1973
Where Built:	Merritt Island, Florida
Builder:	Bertram
Length Overall:	63.0 ft.
Registered Length:	63.0 ft.
Width:	16.0 ft.
Depth:	11.0 ft.
Gross Tons:	75
Net Tons:	60
Type:	research/pleasure craft
Construction:	fiberglass

Description

The vessel is an all-fiberglass Bertram twin diesel powered flybridge sport fish style pleasure craft that was recently utilized by the US Fish & Wildlife Service for research and monitoring in Alaska.

Damage

Found	Recommended
The vessel swamped while moored unattended with no machinery functioning. All interior components of the vessel were affected by saltwater submersion with diesel/lube oil mixture. At present the vessel is being environmentally cleaned to mitigate pollution, to clear obstructions to identify the cause of water intrusion into the hull and repair or contain that issue and otherwise get the vessel in a stable condition to be re-launched and stored, a float, while determinations are made as to the disposition of the vessel.	The vessel required drydocking to investigate and correct the reason for water ingress into the hull and to allow the vessel to be environmentally cleaned to mitigate further damage dockside. Presently, environmental cleaning is underway whereby the vessel interior from top to bottom is being demolished where all loose and saturated provisions, cushions, bedding, carpet, appliances, etc. were/are being removed that are salt/oily water saturated and will not allow mitigation unless removed.

External

1. Hull Structure;
   - The hull/hull attachments appear to have not been damaged to any extent due to this incident. The following was observed:

A. Starboard side amidships, a soft plywood/sealant approx. 3'Lx1'W patch is installed over a stressed section of the hull side shell just at the deck cover board level. It is reported the damage was a result of the incident and salvage. The extent of damage is now known due to the patch cover.

B. Stern deck flybridge access step stainless steel hand rail foot is dislodged on the flybridge deck.

C. The bow section hydraulic deck winch boom end lower flatbar frame plate (aluminum?) is separated from the boom lower longitudinal welds.

D. Hull coating scuffed and scum marks exist but no scrapes, scrathes or gouges observed.

E. The bottom plate, exposed shafts, struts, propellers, rudder, transducer, etc. had no apparent damage.

Internal

2. Pilothouse;
   - Wall wood paneling/ceiling felt and floor carpet saturated.
   - Pilothouse electronics are built into the dash and overhead and were salt/oily water saturated and all are

Within the engine room, a mechanic is evaluating the main engines and marine gears to flush and make operational to stabilize further damage.

The remainder of the engine room will be washed and oily bilge water removed.

Once the vessel is washed, the hull will be secured in order that the vessel can be launched and safely moored in its harbor stall.

Both ventilators and heat will or should then be placed within the engine room 01 deck salon/galley, pilothouse below deck bow section accommodation space to air/heat dry the interior. This will prevent further deterioration and allow some salvage of some wall materials but more so to eradicate the possibility of mildew formation developing.

Should mildew develop, the hope of any salvage value will diminish very quickly.

unreliable. • Pilothouse bench seat/settee assembly cushions salt/oily water saturated. • (5) vessel electrical control stations damaged beyond repair. • Vessel steerage helm/hydraulic steerage system submerged in saltwater. 3. Galley/Salon; • The galley/salon area was submerged in salt/oily water. • All galley apliances damaged beyond repair or salvage. • Carpentry is custom plywood mahogany paneling and in sections warpage is developing to countertop, draws and doors to storage units. • Felt ceiling and carpet floor saturated. • Salon furnishings salt/oily water saturated. 4. Bow Section Accommodations; • Three (3) stateroom and (3) enclosed heads fully submerged in salt/oily water. All furnishings and provisions damaged. Carpentry is saturated with warping developing with drawers sticking, etc. 5. Engine Room; • The engine room, accessed through the salon deck floor hatch, was fully swamped with salt/oily water. The engine room contains the following: • Two (2) Detroit 12V71T diesel engines.	

• Two (2) Twin Disc MG509 marine gears. • (3) aluminum fuel tanks w/ approx. capacity of 1,500 gallons diesel. • (2) banks Racor 1000 FG main engine fuel fills and assorted hose lines. • (2) banks Racor 500 FG auxiliary engine fuel fills and associated hose lines. • (2) Northern Lights AC 3-phase generators with associated wiring. • (1) AC dead front generator panel in salon w/ associated wiring. • (1) AC and (2) DC 12/24) circuit breaker panels in salon w/ associated wiring. • (2) freshwater tanks with a reported estimated capacity of 100 gallons. • (1) estimated 30 gallon hot water tank. • (1) Estimated 50 gallon plastic sewage tank. • (1) water maker estimated 300 gpm. • (6) 12 VDC 8-D wet cell batteries (24 VDC) with associated wiring. • (2) 6 VDC wet cell batteries (12 VDC) with associated wiring. • (4) Rule 2000 12 VAC bilge pumps (2 engine room; 2 lazarette, 1 bow) w/ associated wiring.	

• (1) Rule 3700 12 VAC bilge pump w/ associated wiring. • (1) set vessel engine/bilge/fire alarm system. 6. Safety Equipment; • All vessel safety equipment subjected to salt/oily water saturation to include: • (1) set Solas flares kit • (1) ship's horn • (1) 406 EPIRB • (14) estimated Type I or II PFDs (adult) • (1) 30" life ring • (1) inflatable raft	

"Field" Estimated Cost of Repairs

DAMAGE MITIGATION:				
Sue & Labor/drydock	$	25,000.00 –	$	35,000.00
Environmental cleanup – main engine/marine gear flush/start	$	25,000.00 –	$	35,000.00
Heat/air dry vessel interior	$	2,500.00 –	$	5,000.00
SUBTOTAL DAMAGE MITIGATION	$	**52,500.00 –**	$	**75,000.00**
	$	**(53,000.00) –**	$	**(75,000.00)**
REPAIRS:				
Barge vessel to Puget Sound for repair	$	45,000.00 –	$	65,000.00
Repair facility drydock/layup	$	35,000.00 –	$	45,000.00
Strip vessel interiors – coverings, AC/DC wiring, appliance, warped/soaked carpentry/machinery/ electronics – gutting interior for refurbish/disposal	$	15,000.00 –	$	25,000.00
Flush fuel/freshwater tanks/disposal	$	3,500,00 –	$	5,000.00
Re-wash/dry vessel interior/disposal	$	5,000.00 –	$	7,500.00
Re gel-coat engine room	$	7,500.00 –	$	10,000.00
Remove main engines/marine gears for rebuild/ rebuild main engines/marine gears/install/align	$	50,000.00 –	$	75,000.00
Install new AC gensets as existed/test	$	18,000.00 –	$	25,000.00
New AC/DC rewire/components as existed	$	170,000.00 –	$	225,000.00

New fuel lines/filters as existed	$	3,500.00 –	$	5,000.00
New vessel pumps/hoses as existed	$	3,500.00 –	$	5,000.00
New freshwater pump supply system/hoses	$	1,500.00 –	$	2,000.00
New hot water tank as existed	$	75.00 –	$	150.00
New water maker/plumbing as existed	$	3,500.00 –	$	5,000.00
New pilothouse electronics as existed	$	25,000.00 –	$	35,000.00
New vessel 5-station electric control systems	$	5,000.00 –	$	7,500.00
Carpentry refurbish	$	75,000.00 –	$	100,000.00
Galley appliance refurbish	$	10,000.00 –	$	15,000.00
Furnishings as existed	$	5,000.00 –	$	7,500.00
Hull repair/cleaning	$	25,000.00 –	$	35,000.00
SUBTOTAL 'FIELD' ESTIMATED COST OF REPAIRS	$	**506,075.00 –**	$	**699,650.00**
Unforeseen 10%	$	50,607.00 –	$	69,965.00
TOTAL 'FIELD' ESTIMATED COST OF REPAIRS	$	**556,682.00 –**	$	**769,615.00**
TOTAL 'FIELD' ESTIMATED COST OF REPAIR/MITIGATION	$	**609,682.00 –**	$	**844,615.00**
		(610,000.00) –	$	**(845,000.00)**

Repair/Salvage Options

The above "Field" Estimated Cost to effect damage repair, to place the vessel back into service in a condition as prior to the loss, is between $556,682.00 - $769,615.00.
($557,000.00 - $770,000.00)

The following options exist for owners to consider;

1. **Effect Repair**
   In order to effect damage repair the owners should consider soliciting "bids" from Puget Sound contractors to have the vessel shipped south and have the successful contractor effect the repairs.

   "Field" estimated cost to effect repairs is $557,000 - $770,000.00.

2. **Solicit Salvage Bids**
   The owners could develop a sale packet and solicit closed competitive bids. In order to do this the owners should consider leaving the vessel drydocked as most prospective buyers would be less reluctant to participate with the bottom plate and running gear available to confirm condition. There will be added expenses to hold the vessel in drydocking until the vessel is either sold or a decision is made to re-launch.

Suggested minimum bid: [redacted]
Estimated outcome: [redacted]

3. Auction

Owners could hold an outcry auction and be ready to sell the vessel to the successful and qualified participant. Here again, leaving the vessel drydocked for this purpose gives the same benefit as with the salvage bid process.

Suggested minimum bid: [redacted]
Estimated outcome: [redacted]

4. Disposal

Owners could choose to dispose of the hull to mitigate further liability or expense. Disposal is a very expensive option as it is usually conducted with the oversight of a party such as a marine surveyor who can solicit those contractors typically engaged in such projects on a "no cure/no pay" bid contract basis. "No cure/no pay" means the contractor bids are solicited and once a contractor is selected, the contractor must perform. If unsuccessful, the contractor does not get paid. By selecting competent contractors, the contract will be all-inclusive including expense for permits, etc. to effect the work.

In order to dispose of the vessel in Kodiak, the Kodiak landfill or scrap yard would have to be contacted to ensure they will accept the material. Certainly, disposal requires the contractor to adhere to all environmental rules and regulations.

Cost of Disposal is estimated at between $95,000.00 - $125,000.00.

Surveyor Opinion

Based on the undersigned's physical inspection of the vessel and the apparent good condition of the vessel hull itself, it is the opinion of the undersigned that the owners should effect the following:

1. Not Proceed With Damage Repair

Discussion

- The used vessel market, for a vessel of this class, size, type and condition (pre-damage) is a buyer's market and it is the undersigned's opinion that owners can find the same or better replacement vessel for far less than to effect the damage repair, allowing owners to absorb those savings and have a vessel back in service sooner rather than later.
- If owners disagree and desire an interested contractor to effect damage repairs, the undersigned could assist in that endeavor if desired.

2. Bid the Salvage

Discussion

- This is usually the best and swiftest way for owners to rid themselves of the vessel, likely sooner than later, and can either hire a professional house to do so or solicit through the local avenues and resources which the undersigned can provide.
- A competitive salvage bid usually brings a greater return in funds as bidders are usually more generous not knowing what others have offered.
- In order to solicit bids, a drydocked vessel usually draws more interest than one afloat.
- Participants can be pulled from the local individual populace or other outside repair contractors who may wish to rebuild the vessel for a very low risk return. The fact that the hull is in reasonably good condition, environmentally cleaned and possibly having main engine and marine gears functioning, should draw contractor interest.

3. Auction

- An auction can be effective but does take a greater effort to put into effect and, as Kodiak is in a remote location, a participant would be more reluctant to attend, resulting in decreased interest.
- In the bid process, as discussed above in Surveyors Opinion, Item 3, participants will be able to be absent with some risk of doing so, but would have a packet to guide them to lessen that risk.

Conclusion

It is the undersigned's opinion that owners should not engage in restoring the vessel, unless otherwise constrained to do so, and should therefore, in lieu of an outcry auction, begin a closed competitive bid process, solicit bids to be effectively opened in the latter part of March or mid-April and be prepared to sell the vessel shortly thereafter with clear documentation and title.

It would be most beneficial to do so with the vessel drydocked but this is not absolutely necessary.

Surveyor Comments

1. Should owners desire assistance in soliciting interest in the sale of the vessel, please advise. There may be a couple of individuals locally who may have interest but usually that interest does not equate to a greater value through the bid process of which they can be invited. The allowance of the time to bid the project rather than act hastily should yield a greater return. Naturally, it is apparent that the most owners may likely recoup is the cost of the recent Sue & Labor and environmental cleanup expenses. But, this should be the minimum goal. Owners certainly have to evaluate their position and liability in the matter and certainly, if a lay local individual could take ownership and owners can expedite a transfer of that ownership, liability ends soonest.

2. In order to launch the vessel owners should be assured they have had the hull, hull fittings or attachments fully inspected to ensure the hull is watertight.

This Preliminary Damage Report DV2709 was made without prejudice.

Sincerely,

Jack McFarland
President/Marine Surveyor
Alaska Marine Surveyors, Inc.

Attachments: So Cal Surveys, LLC Marine Survey – R/V Caroline (R/V Arlluk) dated 6/22/09
Photos